Office of Energy Efficiency
EnerGuide Program

Cosy Up in Comfort with a Vented Gas Fireplace

ight Choices

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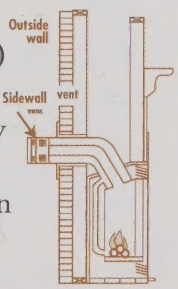
e main types of gas fireplaces are s:

- **Fireplace inserts** are used to convert wood-burning masonry fireplaces or factory-built metal fireplaces to more efficient gas ones. With an insert, the existing chimney must be re-lined with an approved vent.
- **Factory-built (zero-clearance)** units are installed where there is no existing fireplace, typically during home construction or renovation. These fireplaces can be installed against walls.



- **Free-standing gas fireplaces** resemble some wood-burning stoves and can replace them when installed as a direct-vented appliance. Because all surfaces are exposed, these fireplaces tend to be more effective in supplying heat into a home.

units feature simulated logs and a gas burner own firebox, and ceramic or tempered glass allow you to view the flame. Ceramic glass cause it resists shattering and transmits heat efficiently.

Vented gas logs are a less expensive but problematic option. These non-combustible artificial logs, mounted over gas burners, are installed directly in an existing wood fireplace. Gas logs are very inefficient and pose a number of problems, including combustion gas spillage into the home. They are not recommended for well insulated, draft-free homes in Canada.

Three Venting Options for Your New Gas Fireplace

Your choice of venting options – natural draft, power venting or direct venting – can affect the efficiency of your new gas fireplace.

Natural draft venting is typically used with an existing vertical chimney and requires an approved metal liner. This system takes advantage of the natural draft caused by the temperature of the flame.

Power venting will improve your fireplace's efficiency and use less house air. Venting is through either a horizontal or vertical flue, assisted by an electric fan. A gas fireplace with power venting can be located in a home where a conventional flue cannot be installed.

In most cases, **direct venting** (abbreviated as DV in product literature) is the most efficient. Direct-vent units are sealed; outside air is brought directly into the firebox. No house air is required for combustion and no heat is lost from the inside to the outside. Direct-vent units can be installed on an outside wall with the vent running through the wall. Some models are approved for extended horizontal or vertical flue lines.

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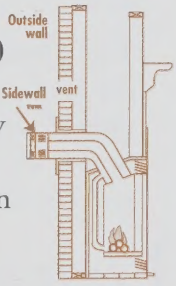

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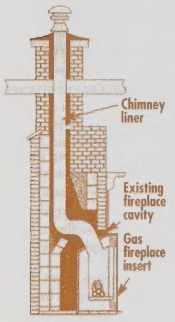
Make the Right Choices

When choosing a gas fireplace, make sure that the unit you purchase can be vented to the outdoors. This is especially important in Canadian homes because units that are not vented to the outdoors can pose serious health hazards by emitting increased levels of nitrogen oxides, carbon dioxide, carbon monoxide and large amounts of water vapour.

The three main types of gas fireplaces are as follows:



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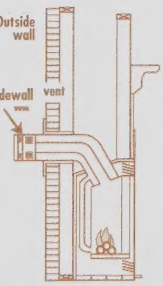

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- **Free-standing gas fireplaces** resemble some wood-burning stoves and can replace them when installed as a direct-vented appliance. Because all surfaces are exposed, these fireplaces tend to be more effective in supplying heat into a home.

All of these units feature simulated logs and a gas burner inside their own firebox, and ceramic or tempered glass fronts that allow you to view the flame. Ceramic glass is better because it resists shattering and transmits heat much more efficiently.

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Not All Gas Fireplaces are Created Equal

It is important to know that some gas fireplaces are more energy efficient than others. Many product brochures attempt to indicate the energy performance of respective models. But the most accurate measurement of energy efficiency for vented gas fireplaces is based on CSA International's P.4 rating. CSA P.4 is the performance-testing method that is used to measure annual gas fireplace efficiency. A good energy-efficient model should have a P.4 rating of between 50 and 70 percent or even higher. This testing method is now being updated, and new ratings using the CSA P.4.1 will be published in late 2002.

Energy-efficient Features

- a direct-vent design (see venting options on reverse);
- an intermittent or automatic electronic ignition system; a pilot light that can easily be shut off and re-lit; or a pilot with an ultra-low firing rate;
- a ceramic glass front;
- a "squirrel cage" type of circulating fan;
- a secondary heat exchanger;
- an insulated outer casing to prevent heat loss (except for free-standing units); and
- adequate turn-down controls or ducting to prevent local overheating.

Thermostat Control

Most gas fireplaces allow you to adjust the temperature by regulating the rate of gas consumption, to as low as 20 percent in some models. For good energy efficiency and comfort, be sure to install a gas fireplace that is not too large for your needs. Look for models that have wide turn-down ranges and a high P.4 rating. Many fireplaces also have an automatic thermostat control to keep the room at just the right temperature.

Choosing the right ignition system for your gas fireplace can play a considerable part in helping you to conserve energy. A pilot light, which is used to ignite the main burner when the fireplace is turned on, can consume as much as half the gas your fireplace uses. Make the smart choice and choose a fireplace that has an automatic starter or electronic intermittent ignition. An alternative is to choose a unit in which the pilot light can be shut down when not in use, especially during summer months, and easily re-lit when required.

Switch on Comfort!

- A gas fireplace gives your home a comfortable, warm ambiance without the mess of traditional wood-burning fireplaces.
- With the right fireplace, you can control the amount of gas you consume while keeping your home warm and cosy.
- When properly maintained, a gas fireplace operates very efficiently and can offer you years of worry-free enjoyment.

Reduce Your Home's Heating Costs

An efficient gas fireplace is not just an attractive addition to your home – it can also help to lower your home's heating costs. It is important to find the best location for your new fireplace. Most fireplaces are installed on the main floor, in rooms where the family spends the most time.

The layout of your house will affect how efficiently the gas fireplace provides heat to other rooms. An open design allows heat to move throughout your home. If your fireplace must be on an outside wall, try to build it inside the house envelope.

Learn More

The Office of Energy Efficiency of Natural Resources Canada offers information to help Canadians become more energy efficient at home, at work and on the road. Visit our Web site at http://oee.nrcan.gc.ca or contact us at the following:

Office of Energy Efficiency
Natural Resources Canada
580 Booth Street, 18th Floor
Ottawa ON K1A 0E4

Tel.: 1 800 387-2000 (toll-free)
(613) 995-2943 (in the National Capital Region)
Fax: (819) 994-1498
E-mail: general.oee@nrcan.gc.ca
Web site: http://oee.nrcan.gc.ca

Cat. No.: M92-235-2001E
ISBN: 0-662-30979-0